that the locality is very rich, more than one-fourth of all the Hawaiian Aculeata being found in this region. Each of the three localities that I enumerated and described at the beginning of this paper has its peculiar species. Where a species is restricted to, or is chiefly found in, one of these only, I have put the number of the locality after its name, where no number is given the species are generally distributed. *Nesomimesa hawaiiensis; Deinomimesa hawaiiensis* (2), *D. punae* (Olaa); *Xenocrabro hawaiiensis, polynesialis, atripennis, curtipes* (1), *fulvicrus* (Olaa); *Hylocrabro tumidoventris* var. *leucognathus; Nesocrabro rubrocaudatus* and var. *bidecoratus* (1); *Odynerus venator* (1 and 3), *erythrognathus* (2), *cyphotes, vulcanus, orbus* (2), *peles* (1), *sociabilis* (1), *scoriaceus* ? (1), *dromedarius* (1), *heterochromus* (2), *rubropustulatus, obscure-punctatus, dyserythrias* (2), *cyanopteryx* (2), *pterocheiloides* (1), *chelifer* (1), *nigripennis, newelli* (Hilo), *hiloensis* (Olaa), *mesospilus* (Olaa), *eutretus* (Olaa); *Nesoprosopis simplex* (1 and 3), *difficilis* (1), *volcanica* (1), *rugulosa* (1), *vicina* (1 and 3), *coniceps* (3), *dumetorum* (3), *specularis* (3), *crabronoides* (3), *inquilina* (1), *sphecodoides* (1), *pubescens, setosifrons, insignis* (3), *erythrodemas* (3).

The parasitic Hymenoptera are well represented by the usual Hawaiian types, and now also by a good many imported species. The finest species are the curious Ophionine, *Banchogastra nigri*, and the Pimpline, *Glyptogastra hawaiiensis*, both found in the fern forest. Ophions of various species and genera are extremely numerous, and often scores of individuals may be seen resting under a single large leaf, while frequently a regular swarm flies off, as one disturbs the dead fronds of the large tree-ferns.

LEPIDOPTERA.

The Lepidoptera are probably the most richly represented of all the Orders of insects at Kilauea, the great number of species that frequent Olaa coming up to within a mile or two of the crater. I will merely mention some of the more interesting species. *Deilephila pyrias*, particularly common in Olaa, is frequent, and its caterpillar is often met with on forest trees, *Euphorbia, Bobea* and others, being polyphagous. A beautiful *Plusia*, of which I have drawn up a description under the name of *P. newelli*, after its discoverer, Brother Matthias Newell, of

Hilo, is closely allied to the remarkable Tantalus species, which I specially noticed in last year's address on the insects of that mountain. The giant species of *Scotorythra* are common, and the still larger *Acrodrepanis* occurs on the Olaa side. Six out of eight of the native species of *Leucania* occur, and all of the most remarkable species. Species of *Scoparia* are a feature of the locality being extremely numerous, as also are individuals of several species of *Orthomecyna* and *Mestolobes*. Many other nice Pyralidina are conspicuous, species of *Margaronia*, *Omiodes*, *Phlyctaenia*, *Talis* and the remarkable *Hyperectis*, while a Pterophorid swarms amongst the *Vaccinium*. Tineina are in profusion at certain (and irregular) seasons, and a number of large species of Tortricina occur, but the latter are generally scarce. The Microlepidoptera require special collecting. They should always be killed with ammonia and pinned in the field on silver wires, directly they are caught. I shall not attempt to draw up a list of species of this Order, which would be of great length, the genera *Agrotis*, *Leucania*, *Scotorythra* and *Scoparia* including many species. The butterfly *Pyrameis tameamea* is very abundant and very variable in color on the underside, while the little blue, *Lycaena blackburni*, swarms on the bushes of *Dodonaea viscosa*, on which the caterpillar feeds.

DIPTERA.

The flies are represented by numerous endemic species, mostly very small and obscure forms. The Drosophilidae and Dolichopodidae include most of these, and they are probably still more abundant at lower elevations in Olaa. Most conspicuous are the Sarcophagid flies of the genus *Dyscritomyia* and *Prosthetochaeta*. They may be seen buzzing round the herbage or shrubs in a very Tachina-like manner and in fact often in company with these parasites. Their habits are yet unknown. I had long supposed them to be parasitic on cutworms, but the discovery by Mr. Terry, that they produce living maggots of large size, makes this supposition less probable. The fact that they often frequent the driest and most arid localities, where there is little or no decaying vegetable matter, and that, in other places where such matter exists, one does not find fly maggots therein, that could produce these large species; the further fact that animal matter under natural conditions in the islands was necessarily almost

wanting, there being only birds to supply this, makes the problem a puzzling one. In spite of this, the species of these flies are numerous, the individuals sometimes abundant, so much so as to furnish the food supply for the larvae of various Hawaiian Crabronidae.

Five species of *Pipunculus* (parasitic here on Delphacid leaf hoppers) are known to me from Kilauea, and several of *Caenosia*, and these with the groups previously mentioned, as well as species of *Lispe*, *Asteia*, *Tephritis* and *Sarcophaga* complete the Dipterous fauna.

Throughout this paper I have used generic and specific names, as published in the "Fauna Hawaiiensis," so that it has not been necessary to cite the authors. In the Hymenoptera I have used the genera proposed by me subsequently for the genus *Crabro* of that work.

Papers.

On Some Peregrine Aphidae in Oahu [Hem.]

By G. W. Kirkaldy.

With the exception of certain Chermidae, all the Sternorrhynchous Homoptera yet observed in the Hawaiian Archipelago appear to be recent arrivals. As is natural in families so little studied till lately, many of the species cannot be identified with any of those already described from other Faunas and consequently their endemic habitat remains unknown. I now enumerate four Aphidae occurring near Honolulu; about six more are known to me, but as they belong to obscure genera with many, poorly differentiated species, I have not yet positively determined them, and must leave them for a future communication.

Several of these species are of considerable economic importance, *Myzus citricidus* doing much damage to Orange trees, whilst *Aphis sacchari* is a pest of Sugar-cane.

Aphis Linnaeus.

1758 Systema Naturae, Ed. 10, p. 451.

1. sacchari Zehntner.

Aphis sacchari Zehntner 1897 Arch. Java Suiker. V. p.? and 1901 op. c., IX (sep., p. 1) Pl. I f. 1-10; Krüger 1899 Das Zuckerrohr und seine Kultur 313. . . . . .